

Final Report: Bird Point Counts at Neal Smith National Wildlife Refuge, Summer of 2005

This is the twelvth year of the bird counts at Neal Smith National Wildlife Refuge (NSNWR) near Prairie City, Iowa. Liessa Thomas began the bird counts as part of the work for her Master's Thesis in 1994. She reported that very little documentation existed quantifying the changes of avifauna over time on large-scale prairie restoration projects. The NSNWR is a large-scale prairie restoration area with hundreds of acres of primarily crop fields having been seeded with native tallgrass prairie plantings. A savanna area is being developed and for the most part, the remnant grass areas, woody areas, and riparian areas have been left undisturbed.

The methods used to do the counts were established during Liessa's thesis work and are listed in her thesis (Thomas et al). There have been a few modifications to the methods over the years. Up until and including the year 1999, 3 counts were done for each point. It was determined that very little was statistically gained by doing each count 3 times so currently each point is visited once.

An AOU code was created for unknown meadowlarks (UNME) and when no birds were recorded at a point within the 10 minute recording time, the 4 character code NONE; however, the 2005 counts had at least one bird recorded per point on all points so NONE was never recorded. Also a period or dot at the end of the AOU code on the data sheet means the birds were recorded in the second 5 minutes of the count or T2.

The counts were done between June 1st and July 16th 2005. The bison confinement counts were done June 29th and July 5th.

There were no counts shortened due to high winds or rain this year.

As a result of crop fields being seeded to prairie plants, crop field points have declined. A large crop area of the northeast portion of the Refuge was seeded to prairie this year. Four crop points became herbaceous in this area. They are points 8,121,123, and 131. Three new crop points were added this year to keep the number of crop points comparable to the other 3 habitat types of this project. The new crop points are 198, 200, and 201. Also, point 61 which had been a 'Woody' habitat point was cleared of timber and has become 'Herbaceous'.

There were a total of 108 point counts (Table 2) with 61 species in 677 entered data records and 1103 individual birds being counted. Overall, the red-winged blackbird (RWBL) was the most common with 150 individual birds being counted at 50 points. Second was the common yellowthroat (COYE) with 81 birds recorded. The next 3 were the American goldfinch (AMGO) with 74, the house wren (HOWR) 60, and the gray catbird (GRCA) 48. See the breakdown for all the species identified in the 2005 bird counts on Table 1.

There were 22 crop points, 36 herbaceous points, 26 riparian points, and 24 wood points. The crop points had 53 entered data records with 17 species. The most abundant was red-winged blackbirds (RWBL) having 21 individuals recorded at 10 of the 22 crop

points. Herbaceous points had a total of 165 records with 30 species being identified. The most common species recorded was the RWBL with 24 records. The woody points had the highest number of data records, 234, but the second largest number of species, 34. The house wren (HOWR) was the most common and had 22 records. The riparian points had 225 records and the highest number of species at 42. The most common species recorded at the riparian points was the common yellowthroat (COYE) having been recorded at 21 of the 26 riparian points.

All 108 points had at least 1 bird recorded in the 10-minute period.

The bird numbers seemed to be average this year and very comparable to the 2004 counts. The Henslow's sparrow (HESP) were slightly lower, 4 birds at 2 points, as were bobolink (BOBO), 1 bird at 1 point. This may in part be the result of large scale burning on the Refuge this spring and it will be interesting to note these birds next year.

Some of the species identified on NSNWR while traveling between points and not recorded were: chimney swift, turkey vulture, American kestrel, Canada goose, Mallard, house sparrow, American crow, northern harrier, great-horned owl, green-backed heron, common nighthawk, and great-blue heron.

By late June, several broods of ring-necked pheasants were spotted on the roads or flushed walking into a point location. Their numbers were high this year on NSNWR. Also, wild turkeys still seem to be increasing quickly in numbers. Only two records on the point counts, but a couple groups of hens with half grown poults were observed while traveling between points.

A couple of new species have been recorded on the counts this year, the blue-gray gnatcatcher (BGGN) and pileated woodpecker (PIWO). Both these species are woodland birds, and so they have probably been on or near NSNWR as prairie plantings would not be an attractant to them, unlike species such as the Henslow's sparrow or bobolink which are drawn to the prairie habitats being established at NSNWR.

REFERENCE:

Thomas, Liessa H., E. E. Klaas. Breeding Birds of a Large-Scale Tallgrass Prairie Restoration in Iowa: Monitoring Abundance and Frequency of Occurrence. Master's Thesis, Iowa State University, Ames. 1999.

TABLE 1: Summation by species for the 2005 NSNWR bird counts.

COMMON NAME	AOU CODE	# POINTS OBS.	TOTAL #
Red-Winged Blackbird	RWBL	50	150
Common Yellowthroat	COYE	51	81
American Goldfinch	AMGO	31	74
House Wren	HOWR	35	60
Gray Catbird	GRCA	35	48
Brown-Headed Cowbird	BHCO	20	47
Dickcissel	DICK	24	42
Barn Swallow	BARS	21	40
American Robin	AMRO	29	39
Mourning Dove	MODO	21	35
Northern Cardinal	NOCA	22	31
Rose-Breasted Grosbeak	RBGR	19	28
Song Sparrow	SOSP	20	28
Grasshopper Sparrow	GRSP	17	27
Black-Capped Chickadee	BCCH	11	22
White-Breasted Nuthatch	WBNU	14	22
Indigo Bunting	INBU	16	20
Killdeer	KILL	8	18
Blue Jay	BLJA	12	17
Downy Woodpecker	DOWO	17	17
Cliff Swallow	CLSW	8	15
Field Sparrow	FISP	11	15
Red-Bellied Woodpecker	RBWO	13	15
Sedge Wren	SEWR	10	14
Eastern Kingbird	EAKI	8	13
Horned Lark	HOLA	9	13
Northern Oriole	NOOR	10	13
Yellow Warbler	YWAR	10	13
Eastern Wood-Pewee	EAWP	9	12
Eastern Meadowlark	EAME	9	11
Vesper Sparrow	VESP	10	11
Brown Thrasher	BRTH	9	10
Northern Flicker	NOFL	7	9
Willow Flycatcher	WIFL	7	9
Yellow-Billed Cuckoo	YBCU	9	9
Great-Crested Flycatcher	GCFL	8	8
Common Grackle	COGR	5	6
Rufous-Sided Towhee	RSTO	5	6
Orchard Oriole	OROR	4	5
Warbling Vireo	WAVI	5	5
Blue-Gray Gnatcatcher	BGGN	3	4
Henslow's Sparrow	HESP	2	4
Red-Eyed Vireo	REVI	4	4
Tree Swallow	TRES	3	4

TABLE 1: coninued

SPECIES	AOU CODE	# POINTS OBS.	TOTAL #
Unknown Meadowlark	UNME	4	4
Ring-Necked Pheasant	RNPH	2	3
Rough-Winged Swallow	RWSW	3	3
Wild Turkey	WTUR	2	3
Hairy Woodpecker	HAWO	2	2
Lark Sparrow	LASP	2	2
Red-Headed Woodpecker	RHWO	2	2
Barred Owl	BAOW	1	1
Belted Kingfisher	BEKI	1	1
Bobolink	BOBO	1	1
Cerulean Warbler	CERW	1	1
Eastern Bluebird	EABL	1	1
Eastern Tufted Titmouse	ETTI	1	1
European Starling	EUST	1	1
Wood Thrush	WOTH	1	1
Pileated Woodpecker	PIWO	1	1
Red-Tailed Hawk	RTHA	1	1

TABLE 2: Pont numbers and GPS locations for 2005 bird counts.

POINT	HABITAT	EASTING	NORTHING
1	HERBACEOUS	474315	4605802
3	HERBACEOUS	475014	4605305
4	RIPARIAN	475390	4605314
6	WOOD	475811	4604807
7	HERBACEOUS	476330	4604808
8	HERBACEOUS	476617	4604703
9	HERBACEOUS	474948	4604598
10	HERBACEOUS	477613	4604610
11	RIPARIAN	475343	4604510
12	HERBACEOUS	475522	4604503
14	WOOD	476317	4604528
15	RIPARIAN	476319	4604416
16	RIPARIAN	478004	4604392
19	WOOD	476314	4604182
20	RIPARIAN	476498	4604193
25	CROP	476611	4603692
26	WOOD	476608	4603588
27	WOOD	476615	4603506
29	WOOD	476714	4603398
30	HERBACEOUS	477503	4603311
31	RIPARIAN	477613	4603320
32	CROP	475212	4603089
33	CROP	477918	4603098
35	WOOD	477792	4602818
36	HERBACEOUS	478012	4602792
40	HERBACEOUS	476794	4602306
41	HERBACEOUS	475012	4602068
42	RIPARIAN	476119	4601972
43	RIPARIAN	476987	4601996
44	RIPARIAN	476320	4601876
45	WOOD	478288	4597293
46	HERBACEOUS	475612	4601697
47	HERBACEOUS	476412	4601696
48	WOOD	477574	4600566
49	WOOD	477313	4601593
50	HERBACEOUS	476517	4601509
51	RIPARIAN	477341	4601513
53	HERBACEOUS	478810	4601426
54	HERBACEOUS	476712	4601313
55	RIPARIAN	477019	4601304
57	HERBACEOUS	478505	4601320
58	RIPARIAN	475220	4601212
59	RIPARIAN	476621	4601216
60	RIPARIAN	476815	4601221
61	HERBACEOUS	477218	4601185
63	WOOD	476995	4601140
64	RIPARIAN	476028	4601106
65	RIPARIAN	477528	4601100
66	HERBACEOUS	476610	4600976

TABLE 2: continued.

POINT	HABITAT	EASTING	NORTHING
70	RIPARIAN	477612	4600905
72	HERBACEOUS	479011	4600706
76	WOOD	477713	4600496
77	WOOD	477918	4600397
78	WOOD	478015	4600322
80	HERBACEOUS	477708	4600198
81	HERBACEOUS	479008	4600259
82	WOOD	477837	4600099
84	RIPARIAN	476690	4599710
87	RIPARIAN	477008	4598996
88	WOOD	477091	4598906
89	WOOD	477002	4598796
90	HERBACEOUS	477305	4598778
91	HERBACEOUS	476994	4598603
92	WOOD	477495	4598592
93	HERBACEOUS	477610	4598584
94	WOOD	477492	4598516
95	WOOD	478004	4598393
96	HERBACEOUS	477616	4598295
97	WOOD	478320	4597486
99	RIPARIAN	478810	4597492
100	CROP	477910	4597403
101	WOOD	478204	4597395
102	WOOD	478482	4597202
103	HERBACEOUS	478814	4597221
104	RIPARIAN	478614	4597080
105	HERBACEOUS	478413	4596996
106	WOOD	476540	4602114
121	HERBACEOUS	476757	4604325
123	HERBACEOUS	476993	4604607
127	CROP	475896	4598592
128	CROP	476542	4599012
129	CROP	478338	4598146
130	WOOD	475762	4599006
131	HERBACEOUS	477037	4604944
134	HERBACEOUS	475354	4603151
135	CROP	478810	4597012
136	CROP	477724	4603159
138	CROP	476984	4599667
139	CROP	475579	4598896
142	HERBACEOUS	476756	4598474
143	RIPARIAN	474868	4605788
146	RIPARIAN	477669	4601737
147	RIPARIAN	476853	4599073
148	RIPARIAN	478813	4597859
154	RIPARIAN	476664	4598681
183	CROP	475816	4598741
184	CROP	475552	4598632
187	CROP	477963	4602912

TABLE 2: continued.

POINT	HABITAT	EASTING	NORTHING
188	HERBACEOUS	475096	4600503
189	CROP	475406	4600638
192	CROP	476234	4603051
193	CROP	476288	4602778
194	CROP	478064	4597267
195	CROP	478087	4597508
197	CROP	476567	4603896
198	CROP	478801	4597723
200	CROP	475333	4598770
201	CROP	475409	4599091